

Nickel Alloy Hastelloy X



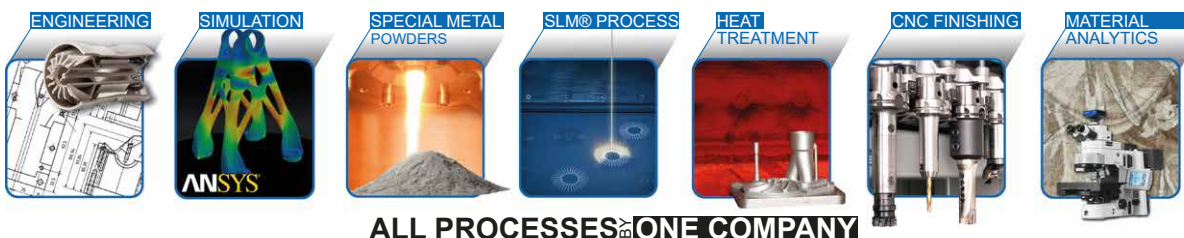
Metal Alloys for Additive Manufacturing

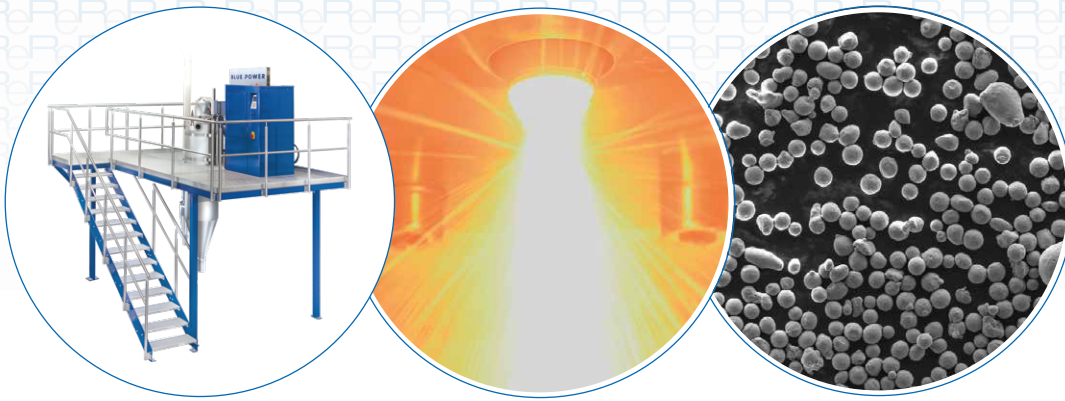
ALTERNATIVE NAMES:

2.4665
Inconel HX
Nicrofer 4722 Co

Properties	Unit	As built ¹⁾
Tensile Strength R_m	MPa	775 ±20
Yield Strength $R_{p0,2}$	MPa	600 ±20
Elongation at Break A_5	%	20 ±5
Young's Modulus E	GPa	165 ±5
Hardness	HV	250 ±5

Rosswag Engineering offers a holistic and fully integrated process chain for Additive Manufacturing services. Our portfolio ranges from manufacturing of your prototypes, tools and small serial products to an individual consulting and engineering process for the choice of material, parameters and process chain.





Material characteristics

The nickel-based alloy Hastelloy X has good high-temperature strength and oxidation resistance. The superalloy is frequently used in gas turbines and industrial furnaces. Due to its high resistance to stress corrosion cracking, the alloy is also often used in the petrochemical industry. Additive manufacturing with downstream heat treatment processes lead to a wide range of possible applications through functional integration.

CHEMICAL COMPOSITION

Element	Mass Fraction [%]
Ni	Balance
Cr	20.0 - 23.0
Fe	17.0 - 20.0
Mo	8.0 - 10,0
Co	0.50 - 2.50
Si	≤ 1.0
W	0.20 - 1.0
Mn	≤ 1.0
C	0.05 - 0.15
P	≤ 0.04
S	≤ 0.03

MICROSECTION



2000µm

- 1) The specified material properties were determined at room temperature. They are multi-dimensionally dependent on many different machine and process parameters. Without further investigation, the material properties do not constitute a sufficient basis for component dimensioning.
- 2) Specific heat treatment processes lead to optimized mechanical-technological properties to meet the component requirements.

